

### **Amendment to the Claims**

This listing of claims will replace all prior versions, and listings, of claims in the application:

#### **Listing of Claims:**

1-29. (Canceled)

30. (New) A method comprising steps of:

- loading a computer program onto an information processing system;
- analyzing nodes within the computer program, said analyzing comprising analyzing node transition from source nodes to destination nodes;
- generating an object containment hierarchy of relationships within the nodes of the computer program using a program analysis tool, wherein the object containment hierarchy comprises a description of how the nodes refer to other nodes;
- generating a temporal flow hierarchy using the program analysis tool, wherein the temporal flow hierarchy comprises control flow and node creation and destruction information, linking events to the node transition;
- annotating the object containment hierarchy with the temporal flow hierarchy to form an annotated object containment hierarchy; and
- presenting at least a portion of the annotated object containment hierarchy in response to a user request.

31. (New) The method of claim 30 wherein the annotating step comprises combining the object containment hierarchy and the temporal flow hierarchy as a single hierarchy.

32. (New) The method of claim 30 wherein the annotating step comprises combining the object containment hierarchy and the temporal flow hierarchy into a series of related hierarchies.

33. (New) The method of claim 30 wherein the program analysis tool comprises a tool selected from a group consisting of: a debugger, a runtime tracer, a profiler, a quality analyzer, and a static analyzer.

34. (New) The method of claim 33 wherein a visualization tool is integrated as part of the program analysis tool.

35. (New) The method of claim 33 wherein a visualization tool is configured to receive data relating to the computer program from the program analysis tool.

36. (New) The method of claim 30 wherein the presenting step comprises displaying at least one selected from a group consisting of: a control flow graph, an invocation graph, an object creation graph, an object reference graph, and a data dependence graph.

37. (New) The method of claim 30 wherein the presenting step comprises:  
presenting the object containment hierarchy in response to the user request;  
receiving a selection of a node from the user; and  
presenting at least a portion of the annotated object containment hierarchy, displaying annotations from a perspective of the selected node, responsive to the user selection.

38. (New) The method of claim 37 wherein the second presenting step comprises presenting the annotations in italics.

39. (New) The method of claim 37 wherein the second presenting step comprises presenting the annotations in brackets.

40. (New) The method of claim 37 wherein the receiving step comprises receiving a click on an icon representing the node.

41. (New) The method of claim 37 wherein the receiving step comprises receiving textual input from the user.